

decreased with increasing initial levels of fluoride, sulphate, and EC in the feed water, and with increasing flow rate. It was also found that removal efficiency was higher for CaF_2 than for NaF.

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FLUORIDE CONCENTRATION IN THE DRINKING WATER SUPPLY SOURCES AND DISTRIBUTION NETWORK OF QOM, IRAN

This study was undertaken to measure the concentration of fluoride in drinking water supplied by the distribution network in Qom City in Northcentral, Iran, and to compare it with the level of total dissolved solids (TDS) and electrical conductivity (EC). All sources of drinking water, the urban and nearby rural, were studied. Urban water sources included the urban distribution network, Ali Abad station, and the desalination system. For F analyses, the standard SPADNS method was used with a DR/4000s Spectrophotometer (HACH Company). The results showed that the mean fluoride concentrations in rural areas, whose water is mainly provided by groundwater sources, was in the range 0.05–0.903 mg/L. In the Urban distribution network it was 0.825 mg/L, in Ali Abad station 0.115 mg/L, and in the desalination system 0.2411 mg/L. Due to the hot climate of Qom, the average fluoride concentration in all sources, except in some of the groundwater sources and urban distribution networks, is less than the permissible concentration set by the Iranian standards. With the exception of some of the groundwater sources and urban distribution network, it is also less than the permissible concentration proposed by WHO. It seems that in most of the drinking water sources the average fluoride level is less than ideal for the prevention of dental caries. The highest level of fluoride (2.18 mg/L) was found in the Neyzar rural area.

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HEALTH EFFECTS OF HIGH FLUORIDE IN GROUNDWATER IN PARTS OF TWO DISTRICTS IN CENTRAL INDIA

Drinking water containing high concentrations of fluoride is harmful to human health. To take adequate preventive measures, it is essential to know the spatio-temporal distribution of F in groundwater. This study was conducted to determine the fluoride content in groundwater and its relationship to the prevalence of fluorosis in the Yavatmal and Chandrapur districts of the Vidarbha Region of Central India. Nearly 18% of the sampled wells have fluoride concentrations above the desirable limit (≤ 1.0 mg/L), the highest value being 8.8 mg/L. High